M&E
AQUA ALLIANCE

January 18, 2000

Mr. Kevin Adler, Remedial Project Manger
U.S. Environmental Protection Agency, Region 5
Office of Superfund, Remedial & Enforcement Response Branch
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Subject: Granville Solvents Site
Response to Questions Raised In Our January 6, 2000, Meeting

Dear Mr. Adler:

We would like to take this opportunity to thank you for meeting with us on January 6, 2000. During our meeting you raised questions regarding several issues that we thought had been previously resolved. The three issues that you have raised are 1) Your request to measure the groundwater protection levels at the property boundary instead of the area around EW-1. 2) Your preference to apply cumulative risk-based standards to groundwater instead of MCLs. 3) You requested a definition of what conditions would trigger turning the systems back on.

Throughout the history of the Granville Solvents PRP Group's involvement in the project with the EPA, these issues were carefully considered and agreements were made that have addressed them to everyone's satisfaction. The impact of changing these agreements may not be readily apparent. Therefore, we have taken the opportunity to prepare the following discussion for your consideration. To make the changes suggested would have a significant impact on the interpretation of the work that has been conducted to date, the agreements we believe we have had with the EPA, and future work. Because the Engineering Evaluation/Cost Analysis (EE/CA) is based on these agreements, the analyses, conclusions, and recommended action may be invalid if these agreements are broken.

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Below we have provided a discussion of each of the issues. We hope that this discussion provides sufficient clarification so that we might move forward with the proposed plan.

1. **The request to measure the groundwater protection levels at the property boundary instead of the area around EW-1.**

The groundwater chemical data clearly illustrate that the furthest extent of impacted groundwater is in the vicinity of monitoring well MW-8. EW-1 is near the location where VOCs were detected in MW-8 during late 1993. The purpose for placing EW-1 at this location was to capture the leading edge of the plume to protect the well field. Throughout the course of executing the required work elements in the AOC, this area has been the working definition of where the groundwater protection levels would be measured.

The EE/CA was developed over a significant period of time in collaboration with the EPA. Throughout its development, and on several specific occasions, it has been agreed that the location where groundwater protection standards were to be measured was in the area around EW-1.

On September 4, 1998, comments issued by the EPA regarding the Groundwater Modeling Report addressed this very issue. EPA reviewers clearly recognized that EW-1 and area in the vicinity of EW-1 were proposed as the locations where the groundwater protection standards were to be measured (Comment Number 2 regarding the Groundwater Modeling Report "*.... In Section 6.2 it is stated that the compliance zone for the aquifer was set at EW-1 and the area around EW-1 which are (sic) within its capture zone.*").

On June 21, 1999, comments issued by the EPA offered language for the EE/CA that made clear the acceptance of EW-1 as the area where the groundwater protection levels would be measured. (Comment Number 2 regarding Section 3.4 Determination of Removal Action Objectives, "*.... to reduce permanently the levels of in* (sic) *impacted groundwater to levels such that MCLs are not exceeded beyond EW-1....*").

Throughout the extensive development process of the EE/CA and supporting documents, several discussions were held with technical and legal representatives at the EPA regarding many issues including where the groundwater protection levels would be measured. On October 14, 1999, following exhaustive reviews, re-analysis, and revisions, the EPA notified the PRP Group that the EPA concurred with the evaluation, analysis, and recommended alternative in the EE/CA. Clearly, the EPA has carefully considered and agreed with where the groundwater protection levels would be measured.

Existing well EW-1 is located in a direct line between the property and the Village of Granville well field. A groundwater plume originating from the property would pass EW-1. Capture of such a plume by EW-1 has been demonstrated through the current pump and treat system. In 1994, low concentrations of organic chemicals were detected in MW-8 (cis-1, 2-DCE was 32 ug/l, trans-1, 2-DCE was 3 ug/l, 1,1-dca was 2 ug/l), all below the MCL for each compound. In 1996, 1,1-DCE was detected at a concentration of 5 ug/l, also below its MCL. Since pumping began, the concentrations of chemicals in MW-8 have decreased further such that there are currently no detectable concentrations of any of the chemicals of concern. Clearly, the concentrations of these chemicals of concern are well below MCLs and any risk-based standard.

Given that EW-1 will remain in place, groundwater impact between the property and EW-1 is of no consequence with respect to contamination of the Village of Granville well field and protection of public health.

The EE/CA documents are based on these agreements. Because the analyses and recommended alternative in the EE/CA are based on these agreements, changes in these agreements may significantly affect the results. You are aware of the processes used in the development of alternatives. Alternatives were selected because they may be reasonably expected to achieve the Removal Action Objectives. A comparative analysis and a cost analysis were conducted with the fundamental criteria of achieving the Removal Action Objectives. The application of each technology was carefully considered against the Removal Action Objectives and the cost analysis took into consideration the time it would take to achieve these standards and the associated costs. Thus, a change in the Removal Action Objectives caused by a change in where the groundwater protection levels are to be measured will invalidate the comparative analysis and cost analysis in the EE/CA and require a complete re-evaluation.

2. The request to apply cumulative risk-based standards to groundwater instead of MCL's.

MCLs are relevant and appropriate as in-situ cleanup standards because the groundwater beneath the site is hydraulically connected to the source aquifer for the Village of Granville water supply. In 1994, numerous chemicals of concern were detected in the aquifer at concentrations above their respective MCL, and presumably risk-based standards, at many locations east of MW-8. The PRP Group and the EPA entered into the AOC that required the installation and operation of a pump and treat system.

Resulting from over five years of operation of the system, the conditions present in the aquifer today are quite different. Concentrations of the chemicals of concern in the aquifer have been substantially reduced and the extent of the plume has been dramatically reduced. Some areas in the aquifer still contain chemicals of concern at concentrations that exceed their respective MCL

and presumably the risk-based standards. Some of the concentrations are high enough, that if left untreated, one might reasonably expect that the area in the vicinity of MW-8 and EW-1 may become contaminated above the MCL or risk-based standard at some time in the future. Therefore, the pump and treat system continues to operate. The clear goal is to treat this groundwater to concentrations such that, when left untreated, concentrations in EW-1 do not become impacted above MCLs or risk-based standards in the future.

The soil Removal Action treatment goals agreed to in the EE/CA were established for each of the chemicals of concern so that when they leach from the soil into groundwater and are transported into the area of EW-1, the concentrations are low enough to meet MCLs and risk-based standards. The groundwater monitoring system is in place to detect the chemicals of concern and to track the progress of these actions.

It is not appropriate at this time to establish risk-based standards for all compounds ever detected in the aquifer because these chemicals are not present where the groundwater protection levels are to be measured. It is appropriate to evaluate risk at some time in the future, if chemicals of concern were to be detected in the area around EW-1, to determine if action should be taken.

3. The request for definition of what conditions would trigger turning the system back on.

The chemicals of concern present in the vicinity of EW-1do not exceed MCLs or risk-based standards at this time. If in the future the concentrations of chemicals of concern exceed MCLs or risk-based criteria in the area of EW-1, the system would be operated to mitigate this condition. If the concentration of the chemicals of concern, alone or in aggregate, exceeds MCLs or risk-based standards (estimated cumulative risk in excess of 1 in 10,000 for carcinogenic risk or a hazard index of 1.0 for non-carcinogenic risks) in the area of EW-1 for three consecutive quarterly monitoring events, the system would be operated.

The PRP Group has an approved monitoring plan and an approved operations plan. In order for the PRP Group to discontinue pumping or monitoring, we would have to demonstrate that the goals of the AOC were met. In the past, changes to the monitoring program were initiated by submittal of a request to modify the monitoring program. We've assumed that the conditions in the AOC were clear enough to make it unnecessary to establish specific criteria for discontinuing or restarting the system.

Summary

In summary, it is our position that agreements made regarding where the groundwater protection levels would be measured are appropriate and sufficiently protective of the public health and environment. The development of cumulative risk-based standards at this time for all chemicals of concern is not appropriate or applicable. The "triggers" to turn the system back on are sufficiently clear in the AOC. However, if the concentration of the chemicals of concern, alone or in aggregate, exceeds MCLs or risk-based standards (estimated cumulative risk in excess of 1 in 10,000 for carcinogenic risk or a hazard index of 1.0 for non-carcinogenic risks) in the area of EW-1 for three consecutive quarterly monitoring events, the system would be operated. The burden to petition operational changes is on the PRP Group.

We hope that this discussion has clarified the issues and questions that you had in our meeting. If you have further questions regarding this matter, please call me at 614-890-5501.

Respectfully,

METCALF & EDDY OF OHIO, INC.

Gerald R. Myers
Vice President/Project Coordinator

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